Join us on the second Thursday of every month for a series of "brown bag" seminars sponsored by the National Renewable Energy Laboratory and the U.S. Department of Energy. Each seminar is held at NREL's Washington offices with a videoconference link to Golden, Colorado. Topics focus on new and innovative renewable energy and energy analysis strategies, models, and technologies.

Energy Analysis Seminar Series

A "brown bag" analytical seminar series

Challenges in Researching the Transition to a Hydrogen Economy

Stephen Bernow, Ph.D., Vice President
Tellus Institute
Thursday, November 14, 2002
Noon–1 p.m.

Tellus Institute is starting research funded by NREL to examine hydrogen as a fuel option. The research will focus on synthesizing current knowledge about hydrogen production technologies and integrating this information into plausible scenarios for transitioning to a hydrogen economy in several urban centers. The goal is to identify significant trends in "technological progress" while offering policymakers—through "scenario analysis"—a view of the implications of these trends.

Bernow will discuss the research issues and challenges Tellus faces in this research. Audience participation in the discussion will be encouraged. Questions include: a) For carbon-emitting hydrogen production options, is carbon sequestration economically feasible? b) What are the costs and GHG reduction benefits of a hydrogen economy for the metropolitan areas of Seattle, Los Angeles, Denver, Houston, Chicago, Atlanta, and Boston? c) What are the market and other impacts associated with using electric power plants for producing hydrogen? And d) for renewables-based hydrogen production, what are the integration options, complementary initiatives, and implications for feasibility of the geographic dispersion of renewable energy resources, power supplies and transmission systems, and the intermittency of solar and wind electricity?

Stephen Bernow is vice president, Tellus Institute, a nonprofit, environmental research and consulting organization. His work during the past 20 years spans energy-sector planning, analysis, and policy issues. Bernow's recent work has focused on energy, environmental, and climate-change policy analyses; incorporating environmental externalities into planning and pricing; exploring sustainable futures; evaluating ecological tax reform; examining national and regional transportation/environment strategies; analyzing policies to promote development of renewable resources; and industrial cogeneration. He has also analyzed the policies of renewables resource portfolio standards and system benefits charges to help renewable resources move along their learning curves and contribute to decreases in the carbon and pollutant intensity of the U.S. economy. Bernow received a B.S. degree from Columbia University School of Engineering and Applied Science in 1963, and a Ph.D. in physics from Columbia University in 1970.

370 L' Enfant Promenade is located adjacent to the Forrestal building at 901 D Street SW in downtown Washington (Aerospace Building). Please contact Wanda Addison at NREL at 202-646-5278 or wanda_addison@nrel.gov

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